



The Stroke and Heart Attack Prevention Program (SHAPP)

What is SHAPP?

The Stroke and Heart Attack Prevention Program (SHAPP) is an educational and direct-service program targeted to low-income Georgians with hypertension. Patient services are provided through county health departments and include screening, referral to doctors, diagnosis, and treatment. SHAPP was initially funded by the Georgia Legislature in 1974.

Of the more than 15,000 patients served by SHAPP, most are aged 30–59 and are African Americans. Most are not covered by either public or private health insurance or thus “fall between the cracks” of the health care system.

Why is SHAPP important?

SHAPP is vital to Georgia given that:

- In 2001, Georgia’s cardiovascular disease (CVD) mortality rate was 11% higher than the national average.¹
- High blood pressure is a major risk factor for CVD.
- One in four Georgians has high blood pressure.²

Why evaluate SHAPP?

When people keep their blood pressure under control, they can potentially avoid the debilitating and expensive complications of CVD: heart attack, stroke, and kidney disease. Although SHAPP advocates have long believed that the program more than pays for itself by preventing these complications, no formal study had been undertaken to prove it.

The Research Triangle Institute, under contract with the Centers for Disease Control and Prevention and in cooperation with the Georgia Department of Human Resources and SHAPP district staff, conducted a study to determine whether SHAPP is cost-effective, and why.

The evaluation involved in-depth case studies of two SHAPP programs—in the Augusta and Brunswick district clinics—with noteworthy blood pressure control rates. In the SHAPP Annual Report for 2003,³ one district reported a 64% blood pressure control rate and the other a 60% rate. Both are significantly higher than the national average.⁴ Statewide, SHAPP clients had a median control rate of approximately 60% in 2003.

This first evaluation of SHAPP provides preliminary evidence of the effectiveness of the hypertension program. Data was collected in the two clinics by:

- In-depth interviews with administrators, staff, and patients.
- Abstraction of medical records.
- Cost analyses to compare patient costs to the potential costs of not treating those patients.

How does SHAPP improve the lives of Georgians?

According to interviews with administrators and clinic staff in these of two SHAPP clinics, the most important patient outcomes include:

- 1) better awareness of the causes and effects of high blood pressure,
- 2) better medication compliance, and
- 3) better likelihood of keeping appointments.

High blood pressure is often referred to as the “silent killer,” because most patients have no symptoms until they suffer a complication, such as heart attack or stroke. That’s why improved medication compliance is one of SHAPP’s significant accomplishments.

In these two clinics, SHAPP achieved better blood pressure control rates for several reasons: **easy enrollment, nonjudgmental and supportive care, frequent monitoring and perhaps most importantly, free or low-cost medications.**

- Patients said staff made time for them, were accepting and nonjudgmental of their low-income status, and treated them well.
- SHAPP staff write prescriptions for only 1–3 months to encourage frequent checkups.
- SHAPP clinic staff remind patients of their appointments by phone, and follow up with patients who don’t keep appointments.
- Patient access to affordable medications through SHAPP is critical for medication adherence and is a cornerstone of the program. **Patients said they could not afford high blood pressure medication if SHAPP did not exist.** Most patients with high blood pressure require some type of medication in addition to making lifestyle modifications.

Patients said that through SHAPP they learned the importance of eating a nutritious, low-sodium diet, exercising, and taking medication consistently. The use of a protocol-driven, systematic, and comprehensive treatment system aided patient counseling.

How much money does SHAPP save Georgia?

Cost analyses compared overall SHAPP costs with two other hypothetical scenarios: if SHAPP did not exist and 1) its clients received no treatment (worst-case scenario) or 2) if its clients received treatment typical of the private sector (best-case scenario).

Because SHAPP achieved above-average blood pressure control rates and offered care to all patients, it is estimated that clients in the two clinics would be **expected** to experience lower rates of hemorrhagic stroke, ischemic stroke, heart disease, and kidney failure compared with alternative worst-case and best-case scenarios.

- Differences in the estimated number of expected adverse outcomes translated into substantial differences in costs; assumptions are based on medical literature. For example, it was estimated that the 543 patients in the Augusta SHAPP were expected to experience roughly 10 fewer adverse events than if they had received no treatment and 7 fewer than if they had received care in the best-case scenario.
- These projected differences translated into substantial cost differences among the three treatment scenarios. For the Augusta clinic alone, total annual costs were estimated at \$289,617 for worst-case scenario, \$323,095 for best-case scenario, and \$209,800 for SHAPP treatment. In both districts, SHAPP was the least expensive of the three treatment scenarios.
- The estimated cost per patient for those in the no-treatment group was \$534 for adverse events alone versus \$595 for the best-case scenario group and \$486 for SHAPP patients, which both included preventive medical care and adverse-events costs.

It should be noted that SHAPP clients would be far more likely to experience the worst-case than the best-case scenario if SHAPP did not exist.

How does the program save money?

Factors that contribute to SHAPP’s cost-effectiveness are:

- All patients in SHAPP receive care, and many services are provided by nurses instead of physicians.

- Patients get frequent checkups, which encourages adherence to treatment protocols, both in terms of services (e.g., visits, lab work) and medications.
- SHAPP buys medications through state purchasing mechanisms that negotiate low prices.
- The SHAPP program does not begin treatment by using new and expensive (and not necessarily more effective) medications. Medications are added or changed according to a nationally accepted, evidence-based protocol.⁵

Critical SHAPP Components

- Easy enrollment.
- Dedicated staff.
- Affordable medication.
- Evidence-based treatment protocols for medications and lifestyle counseling.
- Ongoing patient follow-up and monitoring.
- Nurse-driven treatment program.

“How would clients manage their BP if there were no SHAPP?”

“They wouldn’t.”

—Staff interviews, RTI

References

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